

Appl. No. : 10/713,244  
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### AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of fabricating an implantable medical device having at least one porous layer for releasably containing at least one therapeutic agent, the method comprising:

providing an implantable medical device comprising an alloy, the alloy including a sacrificial component and a structural component; and

selectively removing at least some of the sacrificial component of the alloy, leaving behind the structural component in the form of a matrix with tortuous pathways resulting from the removal of the sacrificial component, to form a porous layer;

wherein the alloy is a cobalt-chromium alloy.

2. (Canceled)

3. (Canceled)

4. (Previously Presented) A method as in claim 1, wherein providing the implantable medical device comprises providing a tubular stent having an outer surface and an inner surface.

5. (Previously Presented) A method as in claim 4, wherein the tubular stent comprises a coronary artery stent.

6. (Previously Presented) A method as in claim 4, wherein the alloy is deposited onto the outer surface of the tubular stent.

7. (Previously Presented) A method as in claim 1, wherein the alloy is deposited on a surface of the implantable medical device.

8. (Canceled)

9. (Canceled)

10. (Canceled)

11. (Original) A method as in claim 1, further comprising embedding at least one substance within the alloy before the removing step.

12. (Previously Presented) A method as in claim 11, wherein the at least one substance is selected from the group consisting of a salt and silicon dioxide particles.

13. (Canceled)

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14. (Previously Presented) A method as in claim 1, wherein selectively removing at least some of the sacrificial component comprises removing a most electrochemically active component of the alloy.

15. (Canceled)

16. (Previously Presented) A method as in claim 1, further comprising introducing a therapeutic agent into the tortuous pathways of the matrix.

17. (Previously Presented) A method as in claim 16, wherein introducing the therapeutic agent comprises introducing the therapeutic agent by at least one of liquid immersion and vacuum dessication.

18. (Previously Presented) A method as in claim 16, wherein the therapeutic agent comprises at least one anti-restenosis agent or anti-inflammatory agent for inhibiting restenosis of a coronary artery.

19. (Original) A method as in claim 1, wherein the device is provided with multiple layers of alloy and multiple components are removed to provide a device having multiple porous layers.

20. (Original) A method as in claim 19, wherein the multiple porous layers have different porosities and different atomic compositions.

21. (Previously Presented) A method as in claim 4, wherein the alloy is located on the inner surface of the tubular stent.

22. (Canceled)

Claims 23-41 (Canceled)

42. (Previously Presented) A method as in claim 1, wherein the porous layer is a nanoporous layer.

43. (Previously Presented) A method as in claim 42, wherein selectively removing at least some of the sacrificial component of the alloy comprises a dealloying process.

44. (Canceled)

45. (Currently Amended) a method as in claim 1[[44]], wherein the cobalt-chromium alloy is L605.

46. (Canceled)

47. (Canceled)

48. (Canceled)

49. (Canceled)

50. (Previously Presented) A method as in claim 1, further comprising:

providing a second alloy on the implantable medical device, wherein the second alloy includes a second sacrificial component and a second structural component; and

selectively removing at least some of the second sacrificial component of the second alloy, leaving behind the second structural component in the form of a second matrix with tortuous pathways resulting from the removal of the second sacrificial component, to form a second porous layer.

51. (Previously Presented) A method as in claim 50, wherein the second alloy is deposited on the porous layer.

52. (Previously Presented) A method as in claim 50, wherein the second alloy has a different atomic composition from the alloy.

53. (Previously Presented) A method as in claim 50, wherein the second porous layer has a different porosity from the porous layer.

54. (Previously Presented) A method as in claim 6, wherein the alloy is deposited onto the inner and outer surfaces of the tubular stent.

55. (New) A method of fabricating an implantable medical device having at least one porous layer for releasably containing at least one therapeutic agent, the method comprising:

providing an implantable medical device comprising an alloy, the alloy including a sacrificial component and a structural component; and

selectively removing at least some of the sacrificial component of the alloy, leaving behind the structural component in the form of a matrix with tortuous pathways resulting from the removal of the sacrificial component, to form a porous layer;

wherein the device is provided with multiple layers of alloy and multiple components are removed to provide a device having multiple porous layers; and

wherein the multiple porous layers have different porosities and different atomic compositions.

56. (New) A method as in claim 55, wherein providing the implantable medical device comprises providing a tubular stent having an outer surface and an inner surface.

57. (New) A method as in claim 56, wherein the tubular stent comprises a coronary artery stent.

58. (New) A method as in claim 56, wherein the alloy is deposited onto the outer surface of the tubular stent.

59. (New) A method as in claim 55, wherein alloy is deposited on a surface of the implantable medical device.

60. (New) A method as in claim 55, wherein the alloy comprises at least one metal selected from the group consisting of gold, silver, nitinol, steel, chromium, iron, nickel, copper, aluminum, titanium, tantalum, cobalt, tungsten, palladium, vanadium, platinum and niobium.

61. (New) A method as in claim 55, further comprising embedding at least one substance within the alloy before the removing step.

62. (New) A method as in claim 61, wherein the at least one substance is selected from the group consisting of a salt and silicon dioxide particles.

63. (New) A method as in claim 55, wherein selectively removing at least some of the sacrificial component comprises removing a most electrochemically active component of the alloy.

64. (New) A method as in claim 55, further comprising introducing a therapeutic agent into the tortuous pathways of the matrix.

65. (New) A method as in claim 64, wherein introducing the therapeutic agent comprises introducing the therapeutic agent by at least one of liquid immersion and vacuum dessication.

66. (New) A method as in claim 64, wherein the therapeutic agent comprises at least one anti-restenosis agent or anti-inflammatory agent for inhibiting restenosis of a coronary artery.

67. (New) A method as in claim 58, wherein the alloy is located on the inner surface of the tubular stent.

68. (New) A method as in claim 55, wherein the porous layer is a nanoporous layer.

69. (New) A method as in claim 68, wherein selectively removing at least some of the sacrificial component of the alloy comprises a dealloying process.

70. (New) A method as in claim 55, wherein the alloy is a cobalt-chromium alloy.

71. (New) a method as in claim 70, wherein the cobalt-chromium alloy is L605.

72. (New) A method as in claim 55, wherein the alloy comprises a silver-gold alloy.

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73. (New) A method as in claim 55, wherein the alloy comprises a stainless steel alloy.

74. (New) A method as in claim 73, wherein the stainless steel alloy is 316L stainless steel.

75. (New) A method as in claim 55, wherein the alloy comprises a nickel-titanium alloy.

76. (New) A method as in claim 58, wherein the alloy is deposited onto the inner and outer surfaces of the tubular stent.

77. (New) A method of fabricating an implantable medical device having at least one porous layer for releasably containing at least one therapeutic agent, the method comprising:

providing an implantable medical device comprising an alloy, the alloy including a sacrificial component and a structural component; and

selectively removing at least some of the sacrificial component of the alloy, leaving behind the structural component in the form of a matrix with tortuous pathways resulting from the removal of the sacrificial component, to form a porous layer;

providing a second alloy on the implantable medical device, wherein the second alloy includes a second sacrificial component and a second structural component; and

selectively removing at least some of the second sacrificial component of the second alloy, leaving behind the second structural component in the form of a second matrix with tortuous pathways resulting from the removal of the second sacrificial component, to form a second porous layer.

78. (New) A method as in claim 77, wherein providing the implantable medical device comprises providing a tubular stent having an outer surface and an inner surface.

79. (New) A method as in claim 78, wherein the tubular stent comprises a coronary artery stent.

80. (New) A method as in claim 78, wherein the alloy is deposited onto the outer surface of the tubular stent.

81. (New) A method as in claim 77, wherein alloy is deposited on a surface of the implantable medical device.

82. (New) A method as in claim 77, wherein the alloy comprises at least one metal selected from the group consisting of gold, silver, nitinol, steel, chromium, iron, nickel, copper, aluminum, titanium, tantalum, cobalt, tungsten, palladium, vanadium, platinum and niobium.

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83. (New) A method as in claim 77, further comprising embedding at least one substance within the alloy before the removing step.

84. (New) A method as in claim 83, wherein the at least one substance is selected from the group consisting of a salt and silicon dioxide particles.

85. (New) A method as in claim 77, wherein selectively removing at least some of the sacrificial component comprises removing a most electrochemically active component of the alloy.

86. (New) A method as in claim 77, further comprising introducing a therapeutic agent into the tortuous pathways of the matrix.

87. (New) A method as in claim 86, wherein introducing the therapeutic agent comprises introducing the therapeutic agent by at least one of liquid immersion and vacuum dessication.

88. (New) A method as in claim 86, wherein the therapeutic agent comprises at least one anti-restenosis agent or anti-inflammatory agent for inhibiting restenosis of a coronary artery.

89. (New) A method as in claim 80, wherein the alloy is located on the inner surface of the tubular stent.

90. (New) A method as in claim 77, wherein the porous layer is a nanoporous layer.

91. (New) A method as in claim 90, wherein selectively removing at least some of the sacrificial component of the alloy comprises a dealloying process.

92. (New) A method as in claim 77, wherein the alloy is a cobalt-chromium alloy.

93. (New) a method as in claim 92, wherein the cobalt-chromium alloy is L605.

94. (New) A method as in claim 77, wherein the alloy comprises a silver-gold alloy.

95. (New) A method as in claim 77, wherein the alloy comprises a stainless steel alloy.

96. (New) A method as in claim 95, wherein the stainless steel alloy is 316L stainless steel.

97. (New) A method as in claim 77, wherein the alloy comprises a nickel-titanium alloy.

98. (New) A method as in claim 77, wherein the second alloy is deposited on the porous layer.

99. (New) A method as in claim 77, wherein the second alloy has a different atomic composition from the alloy.

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100. (New) A method as in claim 77, wherein the second porous layer has a different porosity from the porous layer.

101. (New) A method as in claim 80, wherein the alloy is deposited onto the inner and outer surfaces of the tubular stent.